

continuation of Ser. No. 08/067,413 filed May 25, 1993 (abandoned) which is a continuation of Ser. No. 07/436,962 filed Nov. 15, 1989 (abandoned) which is a continuation of Ser. No. 06/934,389 filed Nov. 24, 1986 (abandoned).

Queen, et al has a later filing date of December 21, 1994 and therefore it is not prior art to this application. The examiner has not established that Queen, et al applies to the added subject matter in the instant CIP.

On page 17 of the office action, the examiner has stated that "at best, the earliest effective filing date of the present invention is 09/19/97". The examiner is apparently of the view that this entire application has an effective filing date of 9/19/97. This is incorrect. The subject matter of this application has three effective filing dates, namely,

1. The portion which is common subject matter as disclosed in the first application on 11/24/1986 takes the effective filing date of 11/24/1986.
2. The portion which has common subject matter as disclosed in the CIP application filed on 9/19/1997 takes the effective filing date of 9/19/1997.
3. The portion which is newly added on 8/31/1998 takes the effective filing date of 8/31/1998.

The examiner may not apply Queen, et al against any portion of the subject matter of this application which was disclosed in the original application on 11/24/86 since Queen, et al is not prior art against such subject matter. Whether or not the currently prosecuted claim scope is fully supported in the full chain of prior applications is irrelevant.

Otherwise Continuation-In-Part practice would have no meaning. The sole issue is to compare the Queen, et al reference (12/21/94 date) only to the subject matter which was added in the chain of applications after this 12/21/94 date since it cannot be used against common subject matter disclosed in the 11/24/86 application. The current broadest claim

reads:

1. A process for producing a yarn suitable for tufting, said process comprising the steps of:
 - a. forming a bundle consisting essentially of a first base fiber, said first base fiber being selected from the group consisting of polyamides, polyesters, polyolefins, cotton and wool;
 - b. ring spinning or wrap spinning the bundle of fiber with a second fiber comprising a heat-activated binder material having a melting point range substantially below that of the base fiber to form a yarn, wherein said heat activated binder material has a melting point range of 105° to 190°C under ambient conditions, such that the second fiber is wrapped around or inserted into the bundle of first base fibers;
 - c. twisting two or more of the yarns to form a plied yarn comprising 0.1 to 12 weight percent of the binder material;
 - d. heating the plied yarn sufficiently to melt the binder material and causing the binder material to flow to intersecting points with the first base fiber; followed by
 - e. cooling the plied yarn to solidify the binder material to thereby encapsulate and bind the first base fiber and retain the twist in the plied yarn.

No valid prima facie case of obviousness has been set forth because the examiner has not provided prior art prior to the relevant of the three effective dates above. The steps of spinning a first base fiber with a heat activated second binder fiber, twisting, heating to melt the binder and cooling is disclosed in the 11/24/86 application. The Queen, et al reference cannot be used against these prior features.

On page 2, paragraph 2 of the office action, the examiner explains the reasons why Queen, et al is being used. These include, forming a blended yarn of including a heat activated fiber; heating twisted yarns and cooling. These features are disclosed in the 11/14/86. Therefore, Queen, et al may not be used against these elements.

Nomura, et al also has a later filing date of March 14, 1996 and therefore it is not prior art to the earlier disclosed features in the prior supporting applications to this case. The examiner has not established that Nomura, et al applies only to the subject matter added after March 14, 1996. On page 3 of the office action the examiner states that he is using

Nomura, et al as an example that wrap spinning is old in the art. However, wrap spinning is specifically disclosed in the 11/24/86 application and therefore Nomura, et al may not be used against this element.

GB 2 205 116 has a later publication date of November 30, 1988 and therefore it is not prior art to the earlier disclosed features in the prior supporting applications to this case. The examiner has not established that GB 2 205 116 applies only to the subject matter added after November 30, 1988. On page 4 of the office action the examiner states that he is using GB 2 205 116 for showing wrap spinning and heat activating a blend of base and heat activated fibers. However, wrap spinning and heat activating a blend of base and heat activated fibers is specifically disclosed in the 11/24/86 application and therefore GB 2 205 116 may not be used against this element.

In the alternative, the examiner agrees that Queen fails to teach ring spinning or wrap spinning a bundle of a first base fiber with a second fiber of a heat-activated binder material. The examiner concedes that Queen fails to teach the use of nylon fibers, and further concedes that Queen fails to teach a group of cotton fibers and binder fibers which are spun together to form a blended yarn. However, the examiner still asserts that it would have been obvious to formulate the presently claimed invention upon a combined reading of Queen with Stahlecker or Nomura, in view of Scott and GB '166. Applicants respectfully urge that this is not the case.

Applicants urge that Queen *teaches away* from the presently claimed invention. Queen merely bundles both cotton and polyester fibers together, whereas the instant invention first forms a bundle of a first fiber and then ring or wrap spins that bundle of fiber with a second fiber. The examiner asserts that it is known in the art to make yarns by either ring spinning or wrap spinning. He then cites either of Stahlecker or Nomura for teaching the formation of a blended or mixed yarn by wrap or ring spinning.

Indeed Nomura shows that ring spinning may be used to spin fibers together, and

Stahlecker mentions the practice of wrap spinning. Scott is also cited for teaching wrap spinning. However, to support a showing of obviousness, these references are required to offer sufficient motivation for one skilled in the art to achieve the desired result. Such is not shown in the presently cited art. Merely showing isolated features of the present claims in the cited art is not enough to show obviousness. These secondary references do not suggest that a second fiber of a heat-activated binder material should be ring or wrap spun around a bundle of a first fiber, as is required by the present claims. Thus it is urged that one skilled in the art not look to Nomura or Stahlecker and Scott in an effort to formulate the presently claimed invention.

The examiner further cites GB '166 for teaching wrap-spinning and heat-activating a blend of heat-activated binder-fibers and base fibers. However, it is again urged that there is no spinning a bundle of fibers with a second fiber to thereby form a yarn as required by the claims. Rather, GB '166 teaches adding a bonding agent to an already-formed pile yarn structure. Such goes against the teachings of the present claims.

Scott is also cited for teaching wrap spinning. However, to support a showing of obviousness, these references are required to offer sufficient motivation for one skilled in the art to achieve the desired result. Indeed, the references cited by the examiner may show one or more features of the present invention. However, in forming the rejection, the examiner leaps to the conclusion that, in effect, all sequences of such steps, include the particular one herein claimed must therefore be *prima facie* obvious. This is certainly not the case. This particular multistep process of this invention is not suggested by the art and the unexpected improvement is likewise not suggested.

It is again urged that the mere fact that five references have been combined to support the examiner's finding of obviousness is, in itself, an indication of non-obviousness. The Examiner appears to be going to great lengths to locate and try to interrelate references involving fiber formation, but no matter how one applies or combines these references they do not teach using the specific sequence of steps in the claimed invention to attained

the demonstrated benefits.

It is submitted that the examiner has not formed a *prima facie* case of obviousness. Even when the examiner attempts to reconstruct the art, the present invention is still not found. Certainly pieces of the invention and parts of the required steps are shown in the art, however, the invention as a whole is not suggested by the combination of references. For these reasons it is submitted that the rejection should be withdrawn.

Claims 17-18 are rejected under 35 U.S.C. 102 or 103 over Queen et al (US 5,567,256) in view of Stahlecker et al (US 4,484,433), or Nomura et al (US 5,611,819), Scott (US 4,668,552) and GB 2,205,166A and further in view of Lofquist (U.S. 5,478,624). It is respectfully submitted that this ground of rejection is not well taken. The arguments over Queen et al, Stahlecker et al, Nomura et al, Scott and GB 2,205,166A are repeated from above. In addition to the unavailability of Queen, et al, and GB 2,205,166A, Lofquist, et al is also unavailable as prior art since it has a later effective filing date of October 14, 1992. The examiner has not established that Lofquist, et al is validly applied to the added subject matter in this continuation in part application. The examiner combines Queen, et al with Lofquist since Lofquist is used to show copolymers of nylon 6 and nylon 66. However, Lofquist is not available prior art for this purpose because Lofquist has an effective filing date of October 14, 1992 and copolymers of nylon 6 and nylon 66 are disclosed in the 11/24/1986 application.

The examiner has rejected claims 1-3 and 14-20 under 35 U.S.C. 103 over Stahlecker, et al (US 4,484,433), in view of Lofquist (US 5,478,624), Queen, et al (US 5,567,256), GB 2,205,166A and Scott (US 4,668,552). It is respectfully submitted that this ground of rejection is not well taken.

In addition to the unavailability of Queen, et al, and GB 2,205,166A, Lofquist, et al is also unavailable as prior art since it has a later effective filing date of October 14, 1992.

The examiner has not established that Lofquist, et al is validly applied to the added subject matter in this continuation in part application.

In the alternative, Stahlecker, Queen, GB 2,205,166A and Scott have been discussed above and the arguments against these references are repeated.

Indeed Lofquist is similar in materials to the present invention, however, as seen at column 3, lines 36-39, a binder fiber is blended with a base fiber by commingling. There is no mention of *ring spinning or wrap spinning* a bundle of fiber with a second fiber comprising a heat-activated binder material. Thus, it is urged that even upon combining this reference with the other cited art, the present claims would still not be obviated.

In addition, it is submitted that Lofquist is not available as prior art to this application since at the time of their respective inventions, both were subject to an obligation of assignment to the same party, namely AlliedSignal Inc. (see 35 U.S.C. 103, last paragraph). The examiner's analysis of the comparative filing dates of this application and that of the Lofquist patent is incorrect. The present application has been pending as a series of continuations in part since Nov. 24, 1986, i.e. before the filing date of the Lofquist patent. The question is not what this the overall effective filing date of this application. Rather, what is the effective filing date of any allegedly *common subject matter*.

The burden is on the examiner in the first instance to demonstrate that the feature for which the Lofquist patent is applied was not disclosed in a continuation in part in the chain before disclosed by Lofquist. No such showing has been made. The examiner asserts that the claimed subject matter is not fully supported in the parent application. The examiner urges that the parent "does not disclose twisting 5 yarns together, much less 10 yarns." Applicants submit that this 5 yarn or 10 yarn requirement is being wrongly imposed by the examiner. The present Claim 1 merely requires twisting "two or more" yarns together, which is disclosed in the parent application as a "2-ply twisted yarn",

shown for example on p.2, line 27 of Ser. No. 06/934,389. Further, the examiner asserts that the parent fails to disclose the particular fiber materials such as cotton or wool of the present claims. However, it is urged that the disclosure of "cellulosic materials", which would include cotton, on p.2, line 5 of Ser. No. 06/934,389. The examiner also urges that the parent fails to teach the present invention's requirement of a ring spinning or wrap spinning method. However, wrap spinning is shown on p. 2, line 10 of the parent Ser. No. 06/934,389.

Applicants again assert that this application is a CIP of 08/933,822 now 6,682,618. But 6,682,618 is a continuation-in-part application of Ser. No. 08/792,819 filed Jan. 30, 1997 now abandoned, which is a continuation of Ser. No. 08/516,506 filed Aug. 17, 1995 (abandoned) which is a continuation of Ser. No. 08/067,413 filed May 25, 1993 (abandoned) which is a continuation of Ser. No. 07/436,962 filed Nov. 15, 1989 (abandoned) which is a continuation of Ser. No. 06/934,389 filed Nov. 24, 1986 (abandoned).

It is urged that one skilled in the art would not be imbued with an inspiration to produce a yarn using the instant process sequence of steps upon a reading of the Queen, et al, Nomura, et al Stahlecker, et al, Lofquist, Queen, et al GB 2,205,166A and Scott references.

The examiner next rejects claims 1-3 and 14-20 under the judicially created doctrine of obviousness type double patenting over all claims of US Patent No. 6,682,618 in view of Queen or Lofquist. It is respectfully submitted that this ground of rejection is not well taken.

As previously stated, the claims of US 6,682,618 clearly do not suggest the combination of steps herein claimed. First, step (b) of US 6,682,618 requires that the second fiber is twisted or wrapped uniformly around the bundle of fiber. The present claims do not require such uniform twisting or wrapping. The present claims further state that the

second fiber is wrapped around or inserted into the bundle of first base fibers. Such is not disclosed by the claims of US 6,682,618. Additionally, US 6,682,618 states that their second fiber consisting essentially of a blend of a second base fiber and a heat-activated binder material having a melting point lower than that of said bundle of fiber. However, the present claims state that the second fiber comprises such a heat-activated binder material. Thus, the present invention is free to include various other components while US 6,682,618 is more limited in that respect.

The present claims further teach the steps of (d) heating the plied yarn sufficiently to melt the binder material and causing the binder material to flow to intersecting points with the first base fiber; followed by (e) cooling the plied yarn to solidify the binder material to thereby encapsulate and bind the first base fiber and retain the twist in the plied yarn. Each feature of these steps are not taught by US 6,682,618, which merely discloses the steps of heating the yarn sufficiently to melt the binder material; followed by cooling the yarn to solidify the binder material.

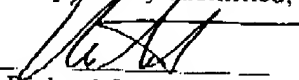
Regarding Queen, it is urged as stated above that this reference teaches away from the presently claimed invention. Queen merely bundles both cotton and polyester fibers together, whereas the *instant invention* first forms a bundle of a first fiber and then ring or wrap spins that bundle of fiber with a second fiber. The examiner agrees that Queen fails to teach ring spinning or wrap spinning a bundle of a first base fiber with a second fiber of a heat-activated binder material. The examiner concedes that Queen fails to teach the use of nylon fibers. The examiner further concedes that Queen fails to teach a group of cotton fibers and binder fibers which are spun together to form a blended yarn.

Regarding Lofquist, for the reasons stated above it is again urged that this reference is not available as prior art. Furthermore, this reference merely teaches binder fiber is blended with a base fiber by commingling. There is no mention of *ring spinning or wrap spinning* a bundle of fiber with a second fiber comprising a heat-activated binder material.

It is respectfully urged that the presently claimed invention is patentably distinct from U.S. Patent no. 6,682,618 in view of Queen and Lofquist, and that the obviousness-type double patenting rejection should be withdrawn.

The undersigned respectfully requests re-examination of this application and believes it is now in condition for allowance. Such action is requested. If the examiner believes there is any matter which prevents allowance of the present application, it is requested that the undersigned be contacted to arrange for an interview which may expedite prosecution.

Respectfully submitted,



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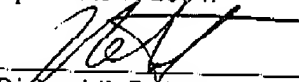
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